Non-Suicidal Self-Injury in a Flemish Population: Associations with Personality Dimensions according to DSM-5

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Abstract

This study investigates differences in the Criterion B, personality dimensions of DSM-5, Section III between adults with and without Non-Suicidal Self-Injury (NSSI). Data was collected from 497 participants (53.92% females) who filled out the Self-Injury Questionnaire Treatment Related (SIQ-TR) and the Personality Inventory for DSM-5 (PID-5). The life-time prevalence of NSSI was 7.13%, and younger participants engaged more often in NSSI compared to older participants. The results of a MANCOVA with the PID-5 personality domains (and subfacets) as dependent variables and the presence/absence of NSSI, gender and their interaction as independent variables and age as covariate, showed significant main effects of age, NSSI, gender, and their interaction. Participants with NSSI scored significantly higher on the domains of Negative Affectivity, Detachment, Antagonism and Psychoticism. Males scored significantly higher on Detachment, Antagonism, Disinhibition and Psychoticism compared to females. And finally, younger participants scored significantly higher on Antagonism and Disinhibition and lower on Detachment compared to older participants. Therefore, personality traits, gender and age should be taken into account while assessing clients who present themselves with signs of NSSI.

Keywords: Non-suicidal self-injury, Personality, PID-5 personality domains, DSM-5

1 Introduction

Non-Suicidal Self-Injury (NSSI) refers to the direct and deliberate destruction of one´s body tissue without suicidal intent for reasons not socially sanctioned (Claes & Vandereycken, 2007a; Nock, 2009). In adults, the lifetime prevalence of NSSI is estimated around 5.9 % in the general population (Klonsky, 2011); while in adolescents it ranges from 13% to 29% (Baetens, Claes, Muehlenkamp, Grietens, & Onghena, 2011). Research about gender differences in NSSI showed mixed results (Jacobson & Gould, 2007); although some researchers (e.g. Baetens, Claes, Willem, Muehlenkamp, & Bijttebier, 2011) found gender differences in the applied NSSI methods. Women reported more often scratching or cutting, while men engaged more often in punching an object with the intention of hurting themselves or burning themselves.

Research on the relationship between NSSI and personality traits (e.g. the Five Factor Model (FFM)) in patients (Claes et al., 2010) and normal samples (MacLaren & Best, 2010) showed that participants with NSSI scored significantly higher on FFM Neuroticism and Openness domains compared to those without NSSI. Significantly lower scores were obtained for the domains Extraversion, Agreeableness and Conscientiousness. Besides the FFM, also other models were applied while investigating the relationship with NSSI. For example, Claes, Norré, Van Assche and Bijttebier (2014) found a significant positive associations between NSSI and Negative Urgency (aligned with Neuroticism) and Lack of Premediation (related to lack of Conscientiousness).

In the recently developed DSM-5, Section III (American Psychiatric Association, 2013) a personality model was developed to assess the pathological personality traits of the FFM by means of five domains and 25 subfacets, which can be assessed by means of the Personality Inventory for DSM-5 (PID-5; APA, 2013; Krueger, Derringer, Markon, Watson, & Skodol, 2012). The PID-5 Negative Affectivity aligns with FFM Neuroticism, PID-5 Detachment with low FFM Extraversion, PID-5 Antagonism with low FFM Agreeableness, PID-5 Disinhibition

with low Conscientiousness, and PID-5 Psychoticism with FFM Openness (Thomas et al., 2013). Up till now, the relationship between DSM-5 personality dimensions and NSSI has not been investigated yet.

Therefore, the aims of the present study are twofold. First, we will investigate the prevalence rate of NSSI, and its associations with age and gender in a representative Flemish sample of adults; hereby extending prior research which mainly focuses on adolescents. Based on previous studies, we expect a prevalence rate of NSSI around 5% (Klonsky, 2011), with no significant gender difference for the presence/absence of NSSI, and a higher rate of NSSI in younger people (Jacobson & Gould, 2007). Second, we will investigate whether the DSM-5, Section III personality domains (and subfacets) differ in function of presence/absence of NSSI, gender, and their interaction, while controlling for age. Based on previous findings with the Big Five personality model (Claes et al., 2010; MacLaren & Best, 2010), we expect that participants with NSSI score significant higher on Negative Affectivity (Neuroticism), Detachment (low Extraversion), Antagonism (low Agreeableness), Disinhibition (low Conscientiousness) and Psychoticism (Openess) compared to participants without NSSI

2 Method

2.1 Participants

Participants were recruited representing the Flemish population based on gender, age and highest degree of education. Data of 515 participants were collected. The data of 18 (3.49%) participants were excluded because they did not fill out their age, gender, NSSI or PID-5 questionnaire. The data-analyses were conducted on 497 participants of whom 229 (46.08%) were male and 268 (53.92%) were female, with a mean age of 46.33 year (*SD* = 18.55, range 16 till 90 years old).

2.2 Instruments

Data were collected by means of reliable and valid self-report measures. To assess NSSI we used an adjusted version of the *Self-Injury Questionnaire Treatment Related* (SIQ-TR; Dutch version; Claes & Vandereycken, 2007b). Participants were asked to indicate if they had ever engaged in NSSI and in which type of NSSI were used (e.g., scratching, cutting, ...). Also the recency, frequency and age of onset of NSSI were assessed.

The Personality Inventory for DSM-5 (PID-5; Krueger et al., 2012; Dutch Translation: De Clercq, De Fruyt, Mervielde, Krueger, & Markon, 2011) is a self-report inventory, consisting of 220 items to be answered on a 4-point Likert scale ranging from 0 (*totally not true*) to 3 (*totally true*). This items can be clustered into five higher order domains: (1) Negative Affectivity, (2) Detachment, (3) Antagonism, (4) Disinhibition and (5) Psychoticism based on the 25 primary facet scales.

2.3 Analyses

All analyses were performed by means of SPSS, version 20. To investigate the prevalence of NSSI, descriptive statistics were used. The association between gender and NSSI was investigated by means of the Chi Square test static. To investigate the differences in mean age between participants with and without NSSI an independent *t*-test was used. To investigate differences in DSM-5 personality traits, between participants with and without NSSI, a MANCOVA was performed with the domain- and subscales of the PID-5 as dependent variables, and the presence/absence of NSSI, gender, and their interaction as independent variables and age as covariate.

3 Results

3.1 Prevalence of NSSI in a Flemish Sample

Of the total sample (N = 505), 7.13 % (N = 36) reported at least one type of life-time NSSI, of which 11.11% (n = 4) participants reported they injured themselves recently. The most

common NSSI methods were; carving oneself (50%), cutting (36.11%), scratching (33.33%), hitting or bruising (25%), puncturing (22.22%), burning (16.67%) and head banging (13.89%) with a mean number of 2.08 methods (*SD* = 1.46). Arms, hands and fingers (86.11%) were injured most often.

On average, participants with a history of NSSI (*M* = 29.2, *SD* = 13.09) were younger than those without NSSI (*M* = 47.7, *SD* = 18.26) ($t(46) = 7.88$, $p < .001$, $d = 1.03$), with a mean age of NSSI onset of 15.76 years (*SD* = 5.26). We did not find a significant association between the presence/absence of life-time NSSI and gender (5.24% of the male and 8.79% of the females engaged in NSSI), χ^2 (1, *N*=502) = 2.36, $p = .125$. However, females reported significantly more carving compared to males, χ^2 (1, *N*=36) = 4.50, $p = .034$, $\Phi = .35$.

3.2 Personality Traits of the PID-5

The results of the MANCOVA with the PID-5 domains (facets) as dependent variables and life-time NSSI (0/1), gender and their interaction as independent variables and age as covariate showed significant main effect of NSSI (Wilks' λ = 0. 88, F (25, 468) = 2.51, $p < .001$, $\eta_p^2 = .12$), gender (Wilks' λ = 0. 78, $F(25, 468) = 5.29$, $p < .001$, $\eta_p^2 = .22$), their interaction (Wilks' λ = 0.90, $F(25, 468) = 2.15$, $p = .001$, $\eta_p^2 = .10$) and age (Wilks' λ = 0.66, F (25, 468) = 9.72, $p < .001$, $\eta_p^2 = .34$).

Participants with lifetime NSSI scored significant higher on the domains and subfacets of Negative Affectivity, Detachment, Antagonism and Psychoticism (Table 1) compared to those without NSSI. For Disinhibition no significant difference was found on the domain level, although the subfacets Rigid Perfectionism and Distractibility were significantly higher for participants who engage in NSSI.

TABLE 1 ABOUT HERE

Concerning gender, male participants scored significantly higher on Detachment (F (1, 492) = 6.15, p = .013, η_p^2 = .01), Antagonism (F (1, 492) = 15.78, p < .001, η_p^2 = .03), Disinhibition (F (1, 492) = 21.38, p < .001, η_p^2 = .04) and Psychoticism (F (1, 492) = 10.78, p = .001, η_p^2 = .02) compared to females. No significant gender differences have been found for Negative Affectivity (F (1, 492) = 2.04, p = .154). However, almost all of the subfacets of Negative Affectivity show significant differences, with higher scores for male participants on Restricted Affectivity (F (1, 492) = 42.07, p < .001, η_p^2 = .08), Hostility (F (1, 492) = 11.64, p < .001, η_p^2 = .02) and Perseveration (F (1, 492) = 4.13, p = .010, η_p^2 = .01) but lower scores on Emotional Lability (F (1, 492) = 4.21, p = .041, η_p^2 = .01) and Submissiveness (F (1, 492) = 6.64, p = .013, η_p^2 = .01) compared to females.

Further, a small significant interaction effect was found for male and female participants with and without a history of NSSI on Detachment (F (1, 492) = 4.31, p = .038, η_p^2 = .01) and Disinhibition (F (1, 492) = 4.76, p = .030, η_p^2 = .01). Males with NSSI scored significantly higher on Detachment/Disinhibition compared to males without NSSI; whereas females with(out) NSSI did not differ on these dimensions.

With respect to age, younger participants scored significantly higher on the domains and subfacets of Antagonism (F (1, 492) = 8.85, p = .003, η_p^2 = .02) and Disinhibition (F (1, 492) = 51.72, p < .001, η_p^2 = .10) and lower on Detachment (F (1, 492) = 14.54, p < .001, η_p^2 = .03) compared to older participants.

4 Discussion

First, the lifetime prevalence of NSSI in our study was 7.13%, and younger participants engaged more often in NSSI compared to older participants. No gender difference was found, although woman reported significantly more carving than men. This findings are mostly in line with previous research (Klonsky, 2011).

Second, the results of our study showed that participants with a history of NSSI scored significantly higher on the PID-5 domains (and subscales) of Negative Affectivity, Detachment, Antagonism and Psychoticism, findings which are in line with previous research in patients (e.g., Claes et al., 2010, 2014) and population samples (e.g., MacLaren & Best, 2010). Not surprisingly, the personality profile of participants with NSSI resembles the personality profile of patients with borderline personality traits. However, in contrast with earlier findings, we did not find a significant difference between participants with(out) NSSI for the domain Disinhibition. A possible explanation could be that our sample mainly consisted of adults, whereas previous research focused more often on adolescents. We know from previous research that Disinhibition declines with age (Van Den Broeck, Bastiaansen, Rossi, Dierckx, & De Clercq, 2013; see further). Another explanation lies in the construct of Disinhibition. Recent research (Bastiaens et al., 2015; Van Den Broeck et al., 2014) suggests that Disinhibition is a broader concept (Impulsivity, Irresponsibility and Distractibility) than previously used in other models, given that it also includes expressions of an antisocial life-style.

Concerning gender differences, males scored significantly higher on the PID-5 domains (and subfacets) of Detachment, Antagonism, Disinhibition and Psychoticism, confirming previous research of Costa, Terracciano and McCrae (2001). Contrary to prior research, we did not find a significant gender difference on the domain Negative Affectivity. However, several subfacets of Negative Affectivity showed significant gender differences: Males scored significantly higher on Hostility, Perseveration and Restricted Affectivity compared to females; whereas the opposite was true for Emotional Lability and Submissiveness; confirming prior findings of Bastiaens et al. (2015).

Finally, concerning age, we found that older participants scored significant higher on Detachment than younger participants, whereas the opposite was true for Antagonism and

Disinhibition, confirming previous findings which show that Impulsivity-related traits decline with age (Van Den Broeck et al., 2013).

Apart from the strengths of our study there are some limitations that need to be discussed. First, this study was cross-sectional in nature, which enables us to draw conclusions about the causal relationship between personality dimensions and NSSI. A longitudinal design with repeated measures of NSSI and personality could give us more insight in the temporal order of these relationships. Secondly, this research is based on self-report questionnaires, which can be influence by social desirability or increased associations due to shared method variance. Therefore, future studies should also include information about NSSI and/or personality assessed by significant others, or by interview. Notwithstanding these limitations, this study was the first to compare Criterion B of DSM-5, section III personality traits between participants with and without NSSI in a representative sample of Flemish adults.

The results of this study point out that personality traits, gender and age should be taken into account when clients present themselves with signs of NSSI. Given that the personality profile of participants with NSSI resemble the profile of clients with borderline personality traits (high negative affectivity, high detachment and high antagonism). Dialectical behavioral therapy or Mentalization Based Therapy can therefore be considered as treatments of choice for participants with NSSI (Claes et al., 2014).

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Table 1
Means and Standard Deviations from the PID-5 Domain Scales and Subscales by presence/absence of NSSI

		NSSI		No NSSI				
Domain Scale	Subscales	*M*	*SD*	*M*	*SD*	*F*(1,492)	*p*	$\eta_p^{2(*)}$
Negative Affect		68.39	20.40	56.66	17.19	11.27	.001	.02
	Emotional Lability	9.47	4.57	6.78	4.12	13.36	<.001	.03
	Anxiousness	11.86	6.88	8.61	5.49	10.30	.001	.02
	Restricted Affectivity	6.72	4.66	5.82	3.71	7.58	.006	.02
	Separation Insecurity	9.17	4.94	6.98	3.79	8.95	.003	.02
	Hostility	10.83	6.28	8.13	4.68	9.88	.002	.02
	Perseveration	8.42	4.66	7.11	4.04	5.07	.025	.01
	Submissiveness	4.36	2.93	3.86	2.43	.00	.975	
Detachment		34.61	22.54	25.52	14.67	23.88	<.001	.05
	Withdrawel	6.47	6.88	5.08	5.18	11.51	.001	.02
	Anhedonia	7.00	5.46	4.96	3.37	20.93	<.001	.04
	Depressivity	10.25	9.06	5.32	5.24	23.20	<.001	.05
	Intimacy Avoidance	3.14	3.52	3.41	3.10	4.49	.035	.01
	Suspiciousness	7.75	3.51	6.75	2.69	6.76	.010	.01
Antagonism		31.33	20.42	22.90	15.61	7.99	.005	.02
	Manipulativeness	5.03	3.87	3.59	2.96	6.40	.012	.01
	Deceitfulness	8.33	6.03	5.33	4.37	9.92	.002	.02
	Grandiosity	2.86	3.04	2.53	2.78	.38	.537	
	Attention Seeking	8.14	5.18	5.98	4.67	2.68	.102	
	Callousness	6.97	7.21	5.49	4.71	7.18	.008	.01
Disinhibition		57.50	17.32	51.85	13.24	2.75	.098	
	Irresponsibility	4.28	3.65	3.49	2.84	.62	.431	
	Impulsivity	6.08	3.77	5.26	3.19	.80	.371	
	Rigid Perfectionism	12.11	7.20	10.15	5.76	4.48	.035	.01
	Distractibility	10.17	6.19	7.10	4.90	11.66	.001	.02
	Risk Taking	19.08	7.25	16.16	6.68	3.30	.070	
Psychoticism		21.19	18.71	12.82	12.25	15.36	<.001	.03
	Unusual Beliefs and Experiences	3.97	4.37	2.83	3.50	5.42	.020	.01
	Eccentricity	11.28	10.85	6.16	6.76	19.90	<.001	.04
	Perceptual Dysregulation	5.94	5.76	3.84	3.94	6.51	.011	.01

(*) Partial eta squared was used as a measure of effect size with a value of .01 meaning a small effect, .06 a medium and .13 a large effect.